Figure 1: header image, text reads "acmc21: connections"

Proceedings of the Australasian Computer Music Conference 2021. Melbourne, Victoria, and Sydney, New South Wales: held online due to the ongoing COVID-19 pandemic.

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Getting Started in Visual Music and AudioVisual Improv

Mark Pedersen and Brigid Burke

Abstract

As co-curators of SeenSound, a Melbourne-based visual music and audio-visual improv series, we propose a practical workshop which introduces participants to both the concepts and the practice of visual music and audio-visual improv through engagement with historical examples and hands-on creation of their own performances, either individually or in small groups.

The practical elements of the workshop will focus on relatively low-cost software and equipment, including open-source software, raspberry pi computing platforms and older / DIY audio-visual equipment that is affordable. The workshop will focus on a playful approach to technology and visual music concepts and will not assume familiarity with formal academic context or prior experience with technology. Participants with advanced technical skills or knowledge will be encouraged to make room for newcomers and engage with a "beginner's mind" while exploring the audiovisual space as a way of refreshing their own creative practice.

More Information

Topics covered will include:

- building a sense of connection and reciprocity between audio and visual material

- strategies for collecting and assembling raw material
- the use of synthesis vs. concrete materials
- strategies for audiovisual performance

Enter the Packetsphere: Environment-Aware Web Art.

Zak Argabrite

Abstract

This paper addresses approaches to the web browser as an artistic medium, and how that artistic medium is inherently connected to the earth and the people who inhabit it. It focuses on a recent web art piece titled Packetsphere developed by two of the paper's authors (Argabrite and Brown). The idea of the browser-as-medium is introduced by providing an overview of historical and contemporary examples of art on the web. The internet's usage in art will then be further contextualized through an investigation into its real-world implications, with an emphasis placed on the wide-reaching environmental impacts and ethics of internet usage (especially for art). These two paths of inquiry will aid and be aided by an in-depth analysis of Packetsphere, a research-based creative output that focuses on salvaging historical expressions of the web while educating about its potential dangers. This is creatively delivered as an abstract travelogue-style journey through the physical infrastructure of the internet. Information about current realities and consequences of the internet with salvaged media and sounds of the historical web. Through this investigation a better understanding of the very real consequences of our virtual spaces will be met via a creative practice lens.

Farm Music: A Collaboration with Junk.

Bridget Johnson

Abstract

The creation of collaborative works with non-musicians can often dictate new and different approaches to technology development and compositional strategies. This paper explores approaches to development of new music technology that is designed for, but removed from, a compositional process with non-musicians. It discusses the creative process for the development of a system for sonic actuation of farm junk that was part of the 'Farm Music' project installed at New Zealand's Taranaki Arts Festival 2020. The paper looks at the actuation systems that were developed as well as compositional control systems for them. It also discusses the farm objects that were used in the installation and the considerations for actuation of farm junk in this public installation context. Farm Music was a

collaboration with music therapist Chris O'Connor and producer Sally Barnett. The project engaged with community members with a focus on engaging men from local farms to focus on their mental health. A series of workshops were run by Chris O'Connor that encouraged the participants to look and listen for sounds in everyday objects. The participants then spent time collecting resonant objects from their farms and brought them to be part of the installation. The installation itself was designed to display the work that participants had completed as well as provide an opportunity for public engagement with the work and the sound making processes.

The systems developed for the work needed to be modular so that whatever junk was found and brought to the installation was able to be actuated. From a technical perspective, the project involved the development of three different actuation systems that aligned with different temporal approaches discussed by music O'Connor: a drone, a scribble, and a strike. In order to create these sounds, surface transducers were used to create drones, motors with soft striking mechanisms for scribbles, and solenoids for strikes. In order to keep all systems modular, they were designed to be attached to mic stands so that final settings of actuators could be flexible depending on the items at the installation.

The presentation discusses and shows the challenges and successes of working in this manner. Further, this presentation provides an as outline for conceptual and technical realizations of the work.

Sonic Cure - Percussion Inspired Modular Synthesizer Interface in Augmented Reality

Weitong Huang

Abstract

This paper describes a synthesizer interface that can be controlled using basic physical interactions between virtual objects in HoloLens 2 with augmented reality (AR) technology. We start by talking about high level designs, including our initiatives of creating this interface. And in the following section, we talk about implementation details of the virtual space and the sound-making mechanism. Finally, we conclude our work by a demonstration video showing our work, Sonic Cure. We would like to view our work as a novel musical performance tool rather than an actual art installation. And we address this in the future work section.

Description:

Sonic Cure is an art inspired musical interface created using the Augmented Reality (AR) technology on the Microsoft HoloLens 2. At the beginning of 2020, when the COVID-19 pandemic started, people around the world were forced to stay at home. The lockdown caused a lot of stress over the population. Japanese composer and artist Mr. Sakamoto Ryuichi published several percussive

art pieces onto YouTube to help relief stress and meditation. I came across those pieces and thought it would be a great idea that we be able to do similar performances in a virtual space while also interacting with the surroundings. Therefore, we designed our work, Sonic Cure, to be using intuitive clashing and rubbing actions to create different sounds in AR space so as to provide such environment as well as creating connection between performer and audiences as they share the same physical space.

Author Bios

Weitong Huang: Fourth year Honours student studying a software engineering degree at the Australian National University (ANU). Weitong worked with Dr. Charles Martin in the Code/Creativity/Culture (C/C/C) Studio during the 2020 summer break in ANU's Acton campus on the project.

Credits

Performer/Main Contributor: Weitong Huang Supervisors: Dr. Charles Martin, Assoc/Prof. Henry Gardner HoloLens 2 Support: Dr. Matt Adcock DisunityST-Support: Dr. Andrew Sorensen Other Contributor: Yichen Wang

n/a

Josh Paton

Abstract

JWPATON is a Yuin artist and musician currently living on Darug Country, Blue Mountains. Working with lofi field recordings, JWPATON creates layered, processed manipulations of original source material. By pushing the limitations of digital software and a minimal modular synth setup, he creates long form ambient soundtracks.

The Lost

Sze Tsang

Abstract

The Lost is an audio-visual contemplation of the sensation of loss, and the subsequent feelings of dislocation. The work is based on a map of Perth from 1838, detailing many of Perth's now-lost wetlands, as well as a field recording from Herdman's Lake and sonified longitudinal and latitude values. The Lost is an exploration of connections between artist, history and place, and how these aspects can inform and intersect in a piece of work.

Artefacts

Daniel Markulic

Abstract

As technology evolves so too does role of the composer. Instead of letting technology take roles from us, we should expand our borders of what being a composer encapsulates so that we can include these new technologies as a tool of composition, rather than a means of creation. This piece composes with less traditional elements of music and technology, mainly, artefacts –both digital and organic.
The score was created by allowing an Artificial Intelligence meant for creating realistic landscapes, to interpret a traditional score. The output is an abstract visual of images that feel simultaneously familiar and unfamiliar. The performer has been given rules on how to interact the score and create music from the images shown.
When exposed to any image an individual creates connections from both extrinsic and intrinsic factors, whether they be cultural or from learned experiences. Creating an image void of connections allows us to an understanding of what is absolutely necessary in a score, and what is just noise.

Synth Building in CSound With the Cabbage Framework

Jon Christopher Nelson

Abstract

Csound is a sound and music computing system that is a direct descendant of the MusicN family of computer music languages. It is an incredibly powerful and flexible coding environment. Cabbage is a framework that provides flexible graphic user interface widgets that can be used to control Csound code in real time. This workshop will provide an overview of the basic syntax of the Csound within Cabbage. Participants will learn how to create and modify a basic software synthesizer from a simple template. No previous experience with Csound or Cabbage is required, but participants are encouraged to download and install Cabbage on their own computer so they can actively participate in this session.

Additional Information for Participants

The basic Cabbage installation includes Csound and can be found at This Link

Mutatis Mutandis: Using Computational Thinking to Interpret Scores by Herbert Brün

James Aylward

###Abstract This discussion examines the work Mutatis Mutandis (1968/1995) by early computer music pioneer, Herbert Brün (1918-2000). Brün started his work with computer music in the late 1950s in Paris, then the WDR studio in Cologne and the Siemens studio in Munich. In 1962 he was invited by Lejaren Hiller to join the faculty at the University of Illinois where he remained for the rest of his working life.

Next to music, Brün was also a computer graphic artist, a cybernetician, and actively interested in the political and social aspects of music and composition. It is these elements that influence his work Mutatis Mutandis. In this piece, Brün presents a number of computer generated graphics, but instead of treating these graphics like a score, performer is given instructions to "construct, by thought and imagination, the interpreter's version of a structure that might leave the traces which the graphic displays." In this sense, he sought a means of stimulating the idea of structured process for the "composing interpreter" rather than simply an activity in attempted reconstruction. This meta approach can challenge how we view the capability of computers to generate music and what graphic scores can communicate to the performer.

The author will document and reflect upon the process of preparation of this work for performance. In seeking to develop a version which best combines his creative talents within the bounds of the score, the author will try to develop a deeper understanding and what it means to creatively apply principles of "algorithmic thought" and "cybernetics" to an acoustic performance. He will also present a recording of a performance of this piece that will demonstrate how computers can indirectly be used to inspire creativity.

Author Biographies

Text goes here.

Musica ex machina: integrating the sonic pallet of machines with acoustic instruments.

Lindsay Vickery

Abstract

Californian composer Robert Erickson was one of the first to directly search for the "music in non-musical sounds" as the inspiration of music with acoustic instruments and electronics. He pioneered the use of analog spectrography to visualise the shapes of complex sound objects. This paper examines the evolution of the practice integrating of pre-recorded mechanical sounds and

acoustic instruments. The foundations of the practice of exploring mechanical sound sound as a subject for 'musical' investigation is discussed in relation to Modernist developments including Futurism and Musique Concrète. The discussion will focus on w orks from the last 50 years by Robert Erickson (1917-97), Barry Traux (1947-) Peter Ablinger (1959-), Annie Gosfield (1960-) , James Saunders (1972-) , Joanna Bailie (1973-) and the author. Techniques employed by composers for combining mechanical sounds and acoustic instruments including spectral analysis, sonification, transcription, resynthesis and transformation will be considered. Issues regarding coordination and sound projection of live and pre-recorded elements will also be addressed.

Author Biographies

Composer/performer Vickery's music includes works for acoustic and electronic instruments in interactive- electronic, improvised or fully notated settings, ranging from solo pieces to opera and has been commissioned by numerous groups for concert, dance and theatre. He is a founder member of ensembles GreyWing (2016-), Decibel (2009-), HEDKIKR (2001-) and Magnetic Pig (1993- 2003). He writes and presents on a range of topics, most recently on the emergence of the "screenscore", nonlinear music and the realisation of Cage's music, in publications/conferences. He is coordinator of Composition and Music Technology at the WA Academy of Performing Arts at Edith Cowan University.

Discussion: Accessibility in Electronic Music

Chair: Alice Bennett

About

From early electronic music's stereotype-smashing pioneers to Imogen Heap's MiMu gloves, the freedom and flexibility of electronic music has opened a new world of accessible music making. Join electronic musicians Cassy Judy, Brigid Burke, Donna Hewitt, Cissi Tsang, and Sophie Rose to discuss the successes and lingering barriers of accessibility in music production and the industry, chaired by Alice Bennett.

Cassy Judy is a musician and proud Transgender Woman. She is currently releasing singles from her forthcoming Seven Ways EP, which will be released in October. She recently gained national media attention with her action around the Coogee Women's Pool and organised the successful Trans Girlz Calender project and the Trans and Gender Diverse Visibility Photoshoot. She enjoys cauterwauling through song about her latest breakup- of which there are many - as well as her own light-hearted take on life and sexuality! When she's not doing this she looking for sharks on lengthy ocean swims!

Brigid Burke is an Australian composer, performance artist, clarinet soloist, visual artist, video artist and educator whose creative practice explores the use

of acoustic sound and technology to enable media performances and installations that are rich in aural and visual nuances. Her work is widely presented in concerts, festivals, and radio broadcasts throughout Australia, Asia, Brazil, Europe and the USA. . Her art practice is traditional acoustic sound, inventive, cutting edge, acousmatic (fixed sound within acoustic spaces) and exists on the cusp between acoustic and electronic sound with mixed media art works, traditional print making, mosaics, paintings on canvas and wood and video art within the field of electronic music and imaging. Her work is beyond the framework of traditional music and video art and is considered as electronic painting, or a high art concert.

Dr. Donna Hewitt is a vocalist, electronic music composer instrument designer and academic. Donna's research has been primarily exploring mediatized performance environments and new ways of interfacing the human body and voice with electronic media. She is the inventor of the eMic, a sensor enhanced microphone stand for electronic music performance and more recently has been creating wearable electronics for controlling both sound and lighting in performance. Her work has attracted funding from the Australia Council for the Arts, most recently with all female collective Lady Electronica. Donna has held academic positions at the Sydney Conservatorium of Music and Queensland, University of Technology and is currently the Head of Creative Arts and Communication and the Coordinator of the Bachelor of Music at the University of New England, Sydney Australia. In 2018 Donna performed her work as part of the VIVID Festival, and The Bondi Feast Festival and in 2018 she presented her work at the MINT (Music in New Technologies) Conference in Halifax, Nova Scotia. She recently performed her collaborative work #Me Too at SFGA in Tokyo and at the Convergence Festival of Technology and New Ideas in Leicester, UK.

Born in 1982 in Hong Kong, **Sze Tsang** (they/them) is a nonbinary audio-visual artist living in Perth, Australia. Their work explores the emotional nature of landscape, and the main focus of their practice has been on their response to the natural landscape as a composer and performer. Part of their practice involves incorporating audio and visual elements of place into compositions, and using the landscape as a narrative device. Sze has performed and exhibited works in Australia, Asia, UK, Ireland and the USA as samarobryn, and has been nominated multiple times in the WAM Song Of The Year Awards in the experimental category. Sze has also been nominated in the 2019 WAM Awards for Best Experimental Artist. Sze is currently a PhD candidate at the Western Australian Academy Of Performing Arts (Edith Cowan University).

Alice Bennett is a flutist and sound artist based in Naarm with creative work encompassing composition, installations, and live performance of both written and improvised music. She is interested in acoustic ecology and bioacoustics and has collaborated with visual artists and scientists, exploring issues of climate, endangered species, and our relationship with the environment. Her music bounces around the borders of experimental sound art and electronic dance music with heavy influences from contemporary art music and 1980s synth pop.

Alice lectures in composition and production at the Australian Institute of Music. Alice is the President of Tilde New Music and Sound Art Inc. and Artistic Director of the Tilde New Music Festival. She is currently enrolled in a Masters of Cultural Leadership at the National Institute of Dramatic Arts. In 2019 she suffered a brain injury in a road cycling accident and has spent the last two years in rehabilitation, gradually returning to herself and her creative practice.

Sophie Rose is a contemporary vocals lecturer at the Australian Institute of Music and a doctoral student at the University of Melbourne, Australia. She is a singer, extended vocal technique enthusiast, composer, improviser, performer, and maker. Originally from New Zealand, Rose incorporates Māori mythology into many works and creates new technologies with collaborator, Cloud Unknowing. She performs and collaborates with Sophie Rose & the Manual Breathing and surrealist music collective Little Songs of the Mutilated. Her exploration of the relationship between creative practice and technology development is ongoing. This concern is reflected in her master's thesis, which explores the effects of physical and non-physical environments on extended vocal techniques and throat-singing as a creative practice.